

Baseline Knowledge Assessment

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Objectives

- Conduct a literature search to identify previous surveys that measure knowledge of hydrogen technologies
- Identify non-survey metrics for assessing the current public visibility of hydrogen technologies
- Develop and implement a plan for conducting national surveys of targeted audiences to determine each population's awareness of, knowledge about, and opinions concerning hydrogen and related technologies
- Design a survey that assesses the general public's knowledge of hydrogen and related technologies

Technical Barriers

This project addresses the following technical barriers from the Education section of the Hydrogen, Fuel Cells, and Infrastructure Technologies (HFCIT) Program Multi-Year R,D&D Plan:

- A. Lack of Awareness
- C. Institutional Barriers and Access to Audiences
- D. Regional Differences

Approach

- Conduct a literature search for previously conducted surveys that are related to the hydrogen economy, hydrogen technologies, and fuel cells
- Establish liaison with Office of Management and Budget (OMB) and prepare paperwork for obtaining OMB approval for conducting surveys
- Identify specific educational content for the target audiences (general public, students and educators, state and local agencies, and large-scale users) to consider when developing survey instruments
- Develop survey instrument for public survey and initiate development of other survey questionnaires

Accomplishments

- Completed draft literature search and documented results
- Began dialogue with appropriate contacts to obtain OMB approval of surveys
- Submitted draft Federal Register Notice about the information collection to the DOE office of the Chief Information Officer
- Completed planning for and design of general public survey, initiated work on surveys for other populations, and initiated collection of non-survey metrics
- Initiated survey analysis plan

Future Directions

- Conduct and analyze surveys of the general public, students and educators, state and local government agencies, and large-scale users
 - Determine and document the baseline knowledge of hydrogen and fuel cells for the four populations involved in the surveys
 - Identify subject areas where hydrogen knowledge is lacking
 - Identify institutional barriers that prevent target audiences from receiving instruction or becoming informed about hydrogen technologies and applications
 - Use the survey results to identify differences, where appropriate, among audiences, regions, genders, and age groups
 - Determine the appropriate mechanism for conveying information about hydrogen and hydrogen technologies to each of the audiences
 - Continue collection and analysis of non-survey metrics
 - Document survey and non-survey metrics findings in a report
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Introduction

The HFCIT Program needs to determine the baseline knowledge of hydrogen and fuel cells in the United States in order to design an appropriate educational program and, in the future, to assess the effectiveness of education activities. Baseline knowledge of hydrogen and fuel cells will be determined through surveys of four distinct population groups - the general public, students and educators, state and local governments, and potential large-scale users and/or agencies that impact large-scale users. Each of these populations is very different and requires a different approach for assessing knowledge. While recognizing that knowledge-assessment surveys cannot pinpoint causality of changes in knowledge and opinions, subsequent surveys identical in methodology to the baseline surveys can measure changes from baseline knowledge levels. The effect of the educational program will be measured in terms of program activities designed to impact baseline knowledge levels.

Approach

This task was initiated during FY 2003 through planning sessions, a literature search, and pilot questionnaires to ensure that the surveys were well-defined and that the objectives for both current and future surveys would be accomplished. A matrix was prepared that mapped each survey audience

against the primary categories of educational information to ensure that the survey questions would address the appropriate content.

Results

Because this is a new task, there are no results to report at this time.

Conclusions

Although surveys have been conducted by several organizations concerning alternative fuels, and some surveys have been conducted on hydrogen and/or fuel cell applications, there has been no statistically designed, random survey of the U.S. population to determine the baseline knowledge of hydrogen and fuel cells. Nor has there been a systematic collection and assessment of non-survey materials related to the hydrogen economy. This type of hard evidence is needed in order to prepare the appropriate educational materials for the very wide-ranging audiences targeted for the HFCIT Program.

FY 2003 Publications/Presentations

1. Truett, et al. *Literature Review for the Baseline Knowledge Assessment of the Hydrogen, Fuel Cells, and Infrastructure Technologies Program*, Draft Final Report, June 2003